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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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04/23/2001

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EXAMINER

WONG, KIN C

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 05/13/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/839,538

Applicant(s)

NAGAKI ET AL.

Examiner

K. Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This is a response the amendment filed on 2/26/04.

This action is based on the newly discovered prior art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1, 2, 5-15 and 24) are rejected under 35 U.S.C. 102(b) as being anticipated by Fujisawa et al (5467277).

Regarding claim 1: Fujisawa et al discloses a disk drive device for recording and/or reproducing information to and/or from an information recording disk and driven by a power supply voltage in a vehicle (as depicted in figure 5 and see col. 3, lines 50-65 and col. 4, lines 40-65 of Fujisawa et al), the disk drive device including an engine start detecting part for detecting an engine start of the vehicle, the disk drive device being driven after said engine start detecting part detects an engine start of the vehicle.

The limitations of claim 1 are satisfied because Fujisawa et al discloses a black box/diagnosis (disk drive) that senses (or detects) the conditions (or environment) of the car (or vehicle) and the ignition start key switch which activates the disk drive or diagnosis or the detecting operations (see abstract of Fujisawa et al).

Regarding claim 2: Fujisawa et al discloses a disk drive device for recording and/or reproducing information to and/or from an information recording disk and driven

by a power supply voltage in a vehicle (see col. 4, lines 53-65 of Fujisawa et al),
including:

a head (it is an essential inherent component of the disk drive) for reading and/or writing information from and/or to the information recording disk (see col. 4, lines 20-27 of Fujisawa et al);

a head driving part for giving a driving instruction to the head (as depicted in steps 510, 516 and 518 in figure 5 of Fujisawa et al – i.e., disk drive boot-up or BIO);

an engine start detecting part for detecting an engine start of the vehicle (see col. 4, lines 4-7 of Fujisawa et al); and

a head movement allowing part for allowing the head to be moved by the head driving part after an engine start of the vehicle is detected by the engine start detecting part (as depicted in figure 5).

Regarding claim 5: the limitations of a voltage value monitoring circuit (see col. 12, lines 5-13 (i.e. meter for the battery charging circuit)) for monitoring voltage values on a first power supply line provided with a backup power supply (battery) and a second power supply line provided with a power supply (generator/alternator) when an engine key is inserted and turned from a first position to a second position, the engine start detecting part outputting an engine start detection signal when the voltage value on the second power supply line reaches a prescribed value, and then the value on the first power supply line or the values on the first power supply line and the second power supply line become lower than the prescribed value and then higher than the prescribed value, based on an output value from the voltage value monitoring circuit are

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considered inherent because the depictions in figures 4A-4G encompass the conventional start-up cycle of the conventional vehicle (i.e., OFF/ON-ACC (accessory)-Start) which include the noted functions.

Regarding claim 6: the limitations of a voltage value monitoring circuit (see col. 12, lines 5-13 (i.e. meter for the battery charging circuit)) for monitoring a voltage value on a third power supply line provided with a power supply when an engine key is turned from the second position to a third position, and a voltage value on a fourth power supply line provided with a power supply when the engine key is turned from the third position to a fourth position, the engine start detecting part outputting an engine start detection signal when the voltage value on the second power supply line or the third power supply line reaches a prescribed value, and then the voltage value on the first power supply line or the voltage values on the first power supply line and the second power supply line become lower than the prescribed value and then higher than the prescribed value, based on an output value from the voltage value monitoring circuit are considered inherent because the depictions in figures 4A-4G encompass the conventional start-up cycle of the conventional vehicle (i.e., OFF/ON-ACC (accessory)-Start) which include the noted functions.

Regarding claim 7: Fujisawa et al teaches that wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing an output of an engine tachometer (engine speed – in col. 3, lines 53-54 and col. 11, lines 13-14 of Fujisawa et al), where it is inherent knowledge that the throttle has a side effect of vibrating the engine and the holding assembly.

Regarding claim 8: the limitations of wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing vibration of the engine inside and outside the vehicle are considered inherent because the throttle sensing encompasses the detection of vibrations and/or noise of the engine (see throttle detection in col. 8, line 40 to col. 10, line 13 of Fujisawa et al).

Regarding claim 9: the limitations of wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing an engine sound are considered inherent because the throttle sensing encompasses the detection of vibrations and/or noise (sound) of the engine (see throttle detection in col. 8, line 40 to col. 10, line 13 of Fujisawa et al).

Regarding claim 10: Fujisawa et al teaches that wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing traveling of the vehicle based on a vehicle speed pulse (in col. 3, lines 53-54 of Fujisawa et al).

Regarding claim 11: the limitations of wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing traveling of the vehicle using a gyro sensor are considered inherent because Fujisawa et al discloses a navigation detection functions which include a gyro sensing in col. 4, lines 14-15.

Regarding claim 12: the limitations of wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing an operation position of a parking brake are consider satisfied because Fujisawa et al describes the

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engine operation state in respect to the transmission and the power train system which include parking and/or parking brake in col. 4, lines 49-52 and col. 6, lines 45-49.

Regarding claim 13: the limitations of wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing operation of a generator (alternator) in the vehicle are considered inherent because the generator detection is part of the battery charging detection circuit.

Regarding claim 14: the limitations of wherein the engine start detecting part outputs a signal representing an operation state of the engine by sensing activation of a starter-motor are considered inherent because the ignition detection encompasses starter-motor sensing (i.e. cranking the engine is a basic indicator of engine starting which requires the starter-motor in order to function).

Regarding claim 15: Fujisawa et al teaches that wherein information on a previous off state of the engine is backed up in a memory, and the information is displayed on a screen in response to detection of a power supply being provided to the second power supply line in col. 8, line 41-51 and col. 6, line 63 to col. 7, line 9.

Regarding claim 24: Fujisawa et al discloses a disk drive (element 48 in figure 2) for recording and/or reproducing information to and/or from an information recording disk and driven by a power supply voltage in a vehicle (as depicted elements 100 and 114 in figure 3 see associated description for details), the disk drive device comprising a sensor for detecting a vehicle condition indicative of an engine start of the vehicle, the disk drive device being driven after the sensor detects the condition to indicate an engine start of the vehicle (see col. 6, lines 24-30 of Fujisawa et al).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims (16-19 and 22-23) are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa et al (5467277) in view of Matsuo (6442461).

Regarding claims 16-17 and 22-23: Fujisawa et al discloses a disk drive device driven by a power supply voltage in a vehicle (as depicted in figure 5 and see col. 3, lines 50-65 and col. 4, lines 40-65 of Fujisawa et al). Even though, Fujisawa et al discloses a state controller (element 12 in figure 1) that encompasses the timing. Fujisawa et al fails to mention a counter (or timer) as part of the implementation of the activation of the disk drive. Matsuo is relied on for the teachings of a timer (or counter) in the implementing of the disk drive activation (see depiction in figure 2 and col. 5, lines 15-35 of Matsuo).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the disk drive start-up cycle of Fujisawa et al with timer to a prescribed (or preset) time period (or frame) as taught by Matsuo. The rationale is as follows: one of ordinary skill in the would have been motivated to provide a stable or standstill environment to perform disk drive boot-up as suggested in col. 2, lines 8-27 of Matsuo.

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Regarding claim 18: Fujisawa et al teaches that further comprising a power supply part for providing a power supply voltage to each part of the disk drive device in connection with the key switch in the vehicle, the counter starting counting operation after the power supply voltage by the power supply part is provided to the disk drive device by the key switch (in col. 7, line 55 to col. 8, line 23 of Fujisawa et al).

Regarding claim 19: Fujisawa et al teaches that further comprising a voltage value monitoring circuit for monitoring a voltage value at the power supply part; and a controller for detecting a voltage value result at said voltage monitoring circuit after the first prescribed time period, controlling the counter to count again when the voltage value is lower than a prescribed value, and driving the disk drive device when the counter has counted a second prescribed time period (in col. 7, line 55 to col. 8, line 23 and col. 6, lines 24-30 of Fujisawa et al).

Claims (3, 4, 20 and 21) are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujisawa et al (5467277) in view of Patton, III (5889629).

Regarding claims 3, 4, 20 and 21: the reason for Fujisawa et al is stated in above rejections. Fujisawa et al fails to mention the forcible moving part (retraction for the head in the disk drive) for forcibly moving the head to a retreat position when the power supply voltage (or power or voltage or current) is interrupted, and, use the counter electromotive force (back-EMF) of the spindle motor to assisting the head retraction. Patton, III is relied for the teaching of the forcible moving part (or retraction of the head or emergency parking of the head) when power is interrupted (or failed), and, use the

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back-EMF of the spindle motor to assisting the retraction of the head (see abstract and col. 2, line 66 to col. 3, line 15 of Patton, III).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the head control of Fujisawa et al with the forcibly retreat (emergency retraction) the head when power is interrupted and have the spindle generating the emergency power to support the traction of the head as taught by Patton, III. The rationale is as follows: one ordinary skill in the art would have been motivated to provide a faster and gentler parking to avoid head crash as suggested in col. 3, lines 20-23 of Patton, III.

Response to Arguments

Applicant's arguments and the English translation of the priority application with respect to claims have been considered but are moot in view of the new ground(s) of rejection to the newly amended claims and with a newly discovered prior art.

Regarding objection to the claims in the remarks filed on 2/26/04 on page 11: the claims numbered in an inconsistent order because claim 18 that is a dependent of an independent claim 16 and while claim 17 is an independent claim. Such numbering yielded an inconsistency of the number order.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Adams (4860124), Smith et al (6633448) and Thoone et al (4758959) are cited for vehicle activation of the disk drive. Aoyagi et al (4701902), Kobayashi et al (6427103) and Yoshizawa et al (6335910) are cited for disk drive in a vehicle.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (703) 305-7772.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kw

10 May 04


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